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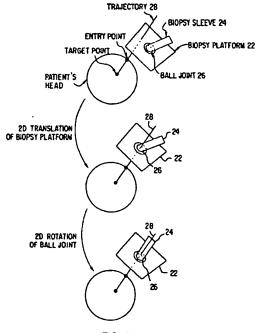
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(54) Biopsy guide

A surgeon can select an entry point and a target point in a preoperative image volume of the patient. The target point and entry point form a trajectory line (28) along with the surgeon wishes to perform a surgical procedure such as a biopsy and line up a surgical instrument. In the present invention, once a surgical platform (10/22) is moved along a guide arm or arc (12) close to a point on the trajectory line (28) the surgical platform (22) is locked to the guide arm (12). A pivot point position at the centre of a ball joint (26) in the middle of a metal plate is then arranged to be exactly at a point on the trajectory line (28). The metal plate is locked down and the ball joint (26) is rotated to ensure that the surgical sleeve (24) extends exactly along the trajectory line (28). This allows a decoupling between the position and orientation movements required to line the surgical sleeve (24) up with the trajectory line (28) to perform a surgical procedure. An interoperative localization device (ILD) is used to track the position of the surgical guide relative to the image space.



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PARTIAL EUROPEAN SEARCH REPORT

Application Number

which under Rule 45 of the European Patent Convention EP 97 30 7600 shall be considered, for the purposes of subsequent proceedings, as the European search report

	DOCUMENTS CONSID				
ategory	Citation of document with in of relevant passa	dication, where appropriate, ges	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)	
	WO 95 22297 A (IMPL * page 4, line 5 -	1CO) 24 August 1995 page 5, line 27 *	1,2	A61B17/34 A61B10/00 A61B19/00	
	US 3 457 922 A (RAY) 29 July 1969 * column 2, line 69 - column 3, line 25 *		1	7616137 66	
	US 5 320 628 A (UFK * column 3, line 25	IN) 14 June 1994 - column 4, line 2 *	1		
-	US 3 115 140 A (VOL * claim 1 *	KMAN) 24 December 1963	1		
				TECHNICAL FIELDS SEARCHED (Int.Ct.6)	
	MPLETE SEARCH				
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or	animal body by surge	thod for treatment of ry Article 52 (4) EPC man or animal body by	- Method		
	Place of search	Date of completion of the search		Examiner	
	THE HAGUE			Glas, J	
	ATEGORY OF CITED DOCUMENTS T . theory or principle underlying the E : earlier patent document, but public after the filing date soluterly relevant if Laken abone coulerly relevant if combined with another D: document cited in the application L: document cited for other reasons mological bankground			ished on, or	
Y:par doc A:teo	sument of the same outsgory hnological background n-written disclosure	L ; document cited	for other reasons	***************************************	